



**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/174,002 10/16/98 BOCH

E 95617-USA

EXAMINER

LM01/0324

MARKS & CLERK
P O BOX 957 STATION B
55 METCALFE STREET SUITE 1380
OTTAWA ON K1P 5S7
CANADA

NGUYEN, P

ART UNIT

PAPER NUMBER

2739

DATE MAILED:

03/24/00

AIR MAIL

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/174,002

Applicant(s)
Erik H. Boch, Alan Jaakkola

Examiner
Phuongchau Ba Nguyen

Group Art Unit
2739



☒ Responsive to communication(s) filed on Jan 24, 2000

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

- ☒ Claim(s) 6, 7, 9-13, 15-18, 22, and 23 is/are pending in the application.
- Of the above, claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 6, 7, 9-13, 15-18, 22, and 23 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claims _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

- ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- ☐ Notice of References Cited, PTO-892
- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☒ Interview Summary, PTO-413
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

Art Unit: 2739

FINAL ACTION

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action (9-22-99) in the interview (1-5-00) is persuasive and, therefore, the finality of that action is withdrawn and the amendment filed in 1-24-00 will be entered.

2. Claims 6-7, 9-13, 15-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Janky et al (5,790,527).

Regarding to claims 6-7:

Janky discloses a dual mode radio transceiver (interface system) selectively participated in trunked radio communication in either an FDMA mode or in a TDMA mode (400, dual mode site). Also, Janky further discloses "...a dual mode site controller (a controller) which controls both FDMA and TDMA base station repeaters"[col.5, 62-col.6, 33]

An interface system (**a dual mode repeater, 16a-b**) at a designated base station (**12, FDMA base station repeater**) in an asynchronous transfer mode (ATM) cellular wireless network, for providing bi-directional, point to multipoint access to network interface units (NIUs) at fixed customer sites within a cellular area, and for providing a point to point bi-directional radio access link for intercell communication with a base station (**14, FDMA base station repeater**) in an adjacent cellular area (**this feature is inherent in the FDMA base station repeater [12]** when this base station [12] is communicating with other base/mobile stations [NIUs] using

Art Unit: 2739

FDMA mode), wherein said interface system (**a dual mode repeater**) includes an ATM radio interface card (ARIC) [**a dual mode transceiver**], and time division multiple access (TDMA) ARICs [**TDMA repeater, 406**] are provided for communication from said base station to said NIUs (**a dual mode repeater operates in TDMA mode**), and frequency division multiple access (FDMA) ARICs [**FDMA repeater, 404**] are provided for communication from said NIUs to said base station (**a dual mode repeater operates in FDMA mode**). [see fig. 2, col.5, 22-col.6, 33 & see fig.16, col.18, 10-col.19, 63]

Regarding to claims 9, 15-16:

Janky does not disclose a system for providing broadband wireless communication over a large geographic area subdivided into a plurality of overlapping cellular area comprising a base station and one or more customer sites within each cellular area.

Janky further discloses, in figure 1, a trunk mobile communication are located in a large geographical area referred to as a "site" on the order of 2000 square miles, e.g. corresponding to a radius of about 25-30 square miles. Base station repeaters receives and retransmits signal to other receiving mobile radio units (10b) within the site area (**cellular area**) on another frequency (f2). Each base station repeater in a site is assigned its own frequency pair or channel. (Col.1, 26-44)

Moreover, it is well known in the art to refer the site areas as a cellular areas.

Art Unit: 2739

Regarding to claims 10, 12-13:

Claims 10, 12-13 are rejected with the same reasons as set forth in claims 6 & 9.

Regarding to claims 11, 17:

Janky further discloses in figure 16 a system manager (205, fig. 11) (a network manager) for maintaining (for controlling the system) a database of the master channel numbering assignment plan for all radio and group IDs in the multisite system. (Col. 20, 21-29)

3. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Janky et al (5,790,527).

Janky does not disclose broadband wireless access is scaleable by increasing the number of ARICs at selected base stations.

It would have been obvious to one with ordinary skill in the art at the time of the invention was made to add more repeaters to the Janky system as claimed. The motivation is to increase the capacity and efficient use of channel bandwidth to many users per channel and to provide the flexibility of repeater at different access modes (TDMA or FDMA).

Art Unit: 2739

4. Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Janky et al (5,790,527) as applied in claims 6-7, 9-13, 15-18 above, and further in view of Takiyasu et al (5,537,414).

Janky discloses, in figs. 12 & 16, a base station for use in a cell of a cellular, broadband wireless communication network comprises:

- A switching system (**Multisite network switch, This switch also reads on ATM switch as claim 23**)

- A first radio interface means (**repeater, 434**) integral to the switching system for supporting communications between the base station and one or more network interface units within the cell

- A second radio interface means (**repeaters, 405 & 406**) integral to the switching system for providing an intercell link whereby the base station communicates with a further base station associated with another cell of the network,

- The second radio interface means includes one or more radio interface cards coupled through a transmitter (**248**) and receiver (**214**) to a high gain antenna (**206**).

Janky does not disclose ^{that} the high gain antenna is 36-42 db and the one or more radio interface cards are connected to a combiner which in turn is connected to the transmitter and receiver

Takiyasu discloses, in fig.26, an RF amplifier (416) controlling the gain of amplifier to a predetermined level and transmitting from an antenna (col.29, 34-col.30, 30).

Art Unit: 2739

Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to implement the amplifier in Takiyasu system to the amplifier in Janky system to adjust the transmitting power at the antenna to a high gain 36-42 db or higher/lower corresponding to the required transmitting power as predetermined to provide the best quality of signals transmitted.

5. Applicant's arguments filed 1-24-2000 have been fully considered but they are not persuasive.

A/. Applicants argued that Janky patent (5,790,527) does not show or suggest a base station communicate with a NIU using TDMA ARIC in one direction (from base station to NIU) and using FDMA ARIC in the other direction (from NIU to base station)[remarks, page 9].

Janky discloses "...a dual mode site controller (a controller) which controls both FDMA and TDMA base station repeaters"[col.5, 62-col.6, 33]; repeater, 434 (a first radio interface means); repeaters, 404 (in FDMA) & 406 (in TDMA) (a second radio interface means) [col.17, 44-col.20, 67]. Also, see figure 2 in Janky that a base station 18 (TDMA repeater) communicates with receiving unit 16b (NIU) in TDMA digital signal F2, and a transmitting unit 16a (NIU) communicates with base station 12 (FDMA repeater) in analog FSK signal (FDMA signal). Thus, Janky does disclose the base station communicate with a NIU using TDMA ARIC in one direction (from base station to NIU) and using FDMA ARIC in the other direction (from NIU to base station)[remarks, page 9].

Art Unit: 2739

B/. Applicants also argued that Janky does not show the first and second interfaces, one for within cell communication and the other for intercell linking [remarks, page 10].

Janky discloses a repeater 434 (a first radio interface means), repeaters 404 (in FDMA) & 406 (in TDMA) (a second radio interface means). Janky further discloses a dual mode site 400 (a cell site) and a FDMA site 402 (another cell site) connected to a multi-switch 444 [col.18, 16-18]. Thus Janky does disclose the first and second interfaces, one for within cell communication and the other for intercell linking [remarks, page 10] because the dual mode site 400 has a transmitting unit 16a which comprises the repeaters 404 (in FDMA), 406 (in TDMA) is a mobile station. The transmitting unit 16a can move from one cell site to another cell site, thus the transmitting unit 16a can either communicate intercell link with a base station of a cell or another base station in another cell.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

Art Unit: 2739

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuongchau Ba Nguyen whose telephone number is (703) 305-0093.

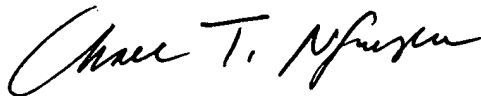
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T. Nguyen, can be reached on (703) 308-5340. The fax number for this group is (703)305-9509.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 305-3900.



P. NGUYEN

March 21, 2000



CHAU NGUYEN
PRIMARY EXAMINER